also allows competing carriers to raise these issues before the New York Commission staff.[300]

109. Bell Atlantic's change management process provides for a stable testing environment.[301] Competing carriers need access to a stable testing environment to certify that their OSS will be capable of interacting smoothly and effectively with Bell Atlantic's OSS, as modified. In addition, prior to issuing a new software release or upgrade, the BOC must provide a testing environment that mirrors the production environment in order for competing carriers to test the new release. If competing carriers are not given the opportunity to test new releases in a stable environment prior to implementation, they may be unable to process orders accurately and unable to provision new customer services without delays.[302] KPMG originally found Bell Atlantic's testing environment "Not Satisfied," specifically noting that the testing environment "did not adequately mirror production capabilities."[303] As the New York Commission suggests, this can result in competing carriers' transactions succeeding in the testing environment but failing in production.[304]

110. In response to KPMG's initial finding, Bell Atlantic worked with New York Commission staff and competing carriers to establish a new testing environment and new testing procedures.[305] Some of these changes were introduced in April 1999 as part of an interim Quality Assurance (QA) environment for carrier-to-carrier testing of new versions of OSS interfaces.[306] KPMG reviewed the interim QA testing environment for pre-ordering and ordering and determined that the interim environment mirrored the production environment.[307] At the same time, KPMG determined the availability of the testing environment under Bell Atlantic's interim procedures presented problems for competing carriers.[308] As AT&T and MCI WorldCom note, the interim QA testing environment was only made available to competing carriers during business

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300 New York Commission Comments at 62.

301 A stable testing environment means that no changes by the BOC are permitted after the testing period commences. *See generally* U S WEST Sept. 27 Letter; NY Attorney General Comments at 17 (describing the importance of testing opportunities for competing carriers).

302 *See generally* Department of Justice Evaluation at 35 ("testing is necessary to prevent major service disruptions when Bell Atlantic makes changes in its side of the interface").

303 KPMG Final Report P1-2 at IV-17 (Test P1-2); New York Commission Comments at 59.

304 New York Commission Comments at 59.

305 New York Commission Comments at 60; Department of Justice Evaluation at 36. The test procedures developed provide for the availability of a test environment that mirrors production, a baseline validation test deck (a compilation of transactions designed to test whether a new release produces expected results) with test account data so competing carriers can test transactions of their choice, and protocols for identifying and resolving issues during testing. Both the baseline validation test deck and a progression test deck are made available to competing carriers on the Bell Atlantic TIS web page. New York Commission Comments at 60.

306 *Id.*

307 KPMG Exception Closure Report 21 at 3 (as referenced in KPMG Final Report at POP1 IV-18 (Test P1-2)).

308 *Id.*

hours and for a maximum period of five business days.[309] On September 20, 1999 Bell Atlantic introduced its permanent QA testing environment. Bell Atlantic represents that the permanent QA testing environment mirrors production and provides a physically separate environment for competing carrier testing.[310] In addition, Bell Atlantic plans to maintain this testing environment for all but emergency changes for at least a month, including extended daily hours.[311] Moreover, in order to ensure that competing carriers are not forced to test and cut over to a new industry standard release prematurely, Bell Atlantic maintains a pre-existing version after issuing a major new release rather than switching directly from one version to the next.[312] Finally, Bell Atlantic, in response to a separate KPMG "Not Satisfied" finding, has introduced new procedures to certify that a competing carrier may move from the testing environment to the production environment.[313]

(b) Discussion

111. Based on the above record evidence, we conclude that Bell Atlantic demonstrates that it has a change management process in place in New York that provides an efficient competitor with a meaningful opportunity to compete. Specifically, we find that Bell Atlantic makes this showing with: (1) evidence of competing carrier input in the design and continued operation of the change management process; (2) the memorialization of the change management process in a basic document; (3) the availability of a separate forum for change management disputes; (4) and the availability of a stable testing environment that mirrors production. We note that even competing carriers have acknowledged in their comments that the processes in the

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309 AT&T Crafton/Connolly Aff. at para. 232; MCI WorldCom Lichtenberg/Sivori Decl. at para. 148 (interim QA test environment allotted only 30 hours over a 5-day period for competing carrier testing and a maximum of 3 hours of technical support). Commenters also claim that the interim QA testing environment was inadequate because orders submitted in production that had previously proved successful in testing were rejected and that Bell Atlantic failed to provide sufficient resources for competing carriers to conduct thorough carrier-to-carrier testing. Allegiance Comments at 8-9; AT&T Crafton/Connolly Aff. at para. 234; MCI WorldCom Lichtenberg/Sivori Decl. at para. 148.

310 Bell Atlantic Miller/Jordan Decl. at para. 106; Department of Justice Evaluation at 36; AT&T Crafton/Connolly Aff. at para. 235.

311 Bell Atlantic Miller/Jordan Decl. at para. 106.

312 Bell Atlantic Miller/Jordan Decl. Attach. G at 89-91 (describing versioning under the Change Agreement).

313 Certification testing is a process conducted jointly by Bell Atlantic and competing carriers to determine whether or not a competing carrier's OSS are capable of submitting valid service orders and receiving responses using Bell Atlantic's EDI interface. KPMG Final Report at POP1 IV-3. KPMG determined that Bell Atlantic failed to offer a repeatable process for planning and coordinating certification testing activities and that Bell Atlantic lacked clearly defined entrance and exit criteria designed to certify that a competing carrier can move from the testing environment to the production environment. KPMG Final Report at POP1 IV-17 (Test P1-1); *see also* KPMG Exception Report 22 (as referenced in KPMG Final Report at POP1 IV-17 (Test P1-1)). Based on KPMG's findings, industry comment, and competing carrier input, Bell Atlantic issued new procedures in May 1999. KPMG reviewed and validated these procedures. New York Commission Comments at 61-62; KPMG Exception Closure Report 22 (as referenced in KPMG Final Report at POP1 IV-17 (Test P1-1)).

Change Agreement are satisfactory as written.[314] Because we recognize that various change management plans may be adequate to meet the needs of competing carriers, we emphasize that the individual factors described above are indicative, but not dispositive, of an adequate process. Although we will look for evidence of these same factors in evaluating a future applicant's change management process, we do not foreclose the possibility that a different plan may be sufficient.

112. We also find that the record demonstrates that Bell Atlantic has adhered to its change management process over time. Commenters, however, express concern that problems remain with respect to Bell Atlantic's ability to adhere to notification and documentation timelines in its Change Agreement and Bell Atlantic's ability to show that the permanent QA testing environment meets the needs of competing carriers. In addition, commenters allege that Bell Atlantic issues too many emergency changes and fails to consider competing carrier input in the change management process.

(i) Notification and Documentation Timeliness

113. We conclude that Bell Atlantic provides competing carriers with change management notification and documentation for upcoming change releases in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete. As TRA suggests, the failure of a BOC to provide timely, complete, and accurate notice of alterations to its systems and processes hinders the ability of competitive providers to serve their customers adequately.[315] Without timely notification and documentation, competing carriers are unable to modify their existing systems and procedures or develop new systems to maintain access to a BOC's OSS functions. As a preliminary matter, we find that the Change Agreement establishes reasonable intervals for the distribution of change management notification and documentation because they provide competing carriers with sufficient time to prepare for Bell Atlantic system changes.[316] In addition, we commend Bell Atlantic and the New York Commission for developing metrics that report its compliance with these intervals.[317]

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[314] MCI WorldCom Comments at 19; MCI WorldCom Lichtenberg/Sivori Decl. at para. 127; *see also* AT&T Crafton/Connolly Aff. at para. 195.

[315] TRA Comments at 11 n.38. *See also* MCI WorldCom Comments at 20-21; NY Attorney General Comments at 17.

[316] Under the Change Agreement, Bell Atlantic must provide competing carriers initial notification of most upcoming changes at least 66 days prior to the implementation of the change. For these changes, Bell Atlantic must also distribute final documentation describing the change in detail 45 days prior to implementation. For emergency changes, however, the Change Agreement only requires that Bell Atlantic notify competing carriers at any time prior to implementation. For regulatory changes, notification and documentation intervals may be set by the New York Commission or other regulatory authority. Changes in industry standards may also proceed on a different schedule. *See generally* Bell Atlantic Miller/Jordan Decl. Attach. G at 15-20.

[317] *See Order Adopting Inter-Carrier Service Quality Guidelines*, Case 97-C-0139 (NYPSC Feb. 16, 1999) (Bell Atlantic Application, App. E, Tab 61) (*NYPSC Guidelines Order*); *Order Establishing Permanent Rule*, Case 97-C-0139 (NYPSC Jun. 30, 1999) (Bell Atlantic Application, App. E, Tab 83) (*NYPSC Permanent Rule Order*).

114. We find that Bell Atlantic provides competing carriers with timely change management notification and documentation for changes made at the request of regulatory authorities (Type 2 changes), industry standard organizations (Type 3 changes), and competing carriers (Type 5 changes) in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete. For these types of changes, the data are extremely limited because they occur infrequently. Nonetheless, the data provided on these changes in both the Carrier-to-Carrier metrics and the KPMG Final Report demonstrate that Bell Atlantic has already established a pattern of compliance with the relevant notification and documentation intervals in its Change Agreement.[318]

115. We also find that Bell Atlantic provides competing carriers with notification and documentation for Bell Atlantic-initiated changes (Type 4 changes) in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete.[319] In its Final Report, KPMG found that Bell Atlantic was unable to meet documentation intervals set in the Change Agreement for Type 4 changes, and characterized this problem as "Not Satisfied."[320] KPMG found that Bell Atlantic provided timely documentation in only three of nineteen instances for Type 4 changes from January to June 1999.[321] During the same period, Bell Atlantic was able to provide timely notification of upcoming Type 4 changes in sixteen of twenty instances.[322] Bell Atlantic contends, however, that it has now addressed the documentation timeliness problem identified by KPMG.[323] With respect to initial notification timeliness, during the period from July to October 1999, the record shows that Bell Atlantic provided timely notification for eleven of twelve Type 4 changes.[324] With respect to final documentation timeliness, during the period from

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318 *See generally* KPMG Final Report at RMI1 VII-10 (Table VII-1.9); Bell Atlantic Dowell/Canny Decl. Attach. D at 84-85, 96-97 (metrics PO-4-01, PO-4-02, PO-4-03); Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1-2 (metrics PO-4-01, PO-4-O2, and PO-4-03).

319 Type 4 changes are those that Bell Atlantic seeks to implement on its own accord, rather than at the request of regulatory authorities, industry standard organizations, or competing carriers themselves. *See generally* Bell Atlantic Miller/Jordan Decl. Attach. G at 6.

320 KPMG Final Report at RMI1 VII-8.

321 KPMG Final Report at RMI1 VII-10.

322 *Id.*

323 Bell Atlantic Miller/Jordan Decl. at para. 102. Bell Atlantic asserts that the deficiencies identified by KPMG resulted from Bell Atlantic missing several dates for the distribution of documentation in February 1999, and excluding updates to RETAS documentation from the change management process. According to Bell Atlantic, it now includes RETAS documentation in the change management process. Bell Atlantic Miller/Jordan Decl. at para. 102; New York Commission Comments at 57. In addition, we note that billing changes also are now a part of the change management process in New York. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 81.

324 Because the sample sizes in any given month for Type 4 changes are so small, we prefer to review Bell Atlantic performance over the course of several recent months rather than in any one individual month. This also provides us with a better comparison to the data provided in the KPMG Final Report. KPMG Final Report at RMI1 VII-10 (Table VII-1.9); Bell Atlantic Dowell/Canny Decl. Attach. D at 84, 96; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1 (observations listed for metric PO-4-01). In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing its Type 4 notification was

August to October 1999, the record shows that Bell Atlantic provided timely documentation for eight of ten Type 4 changes.[325] Thus, Bell Atlantic has demonstrated considerable improvement since the KPMG review. In particular, Bell Atlantic was able to provide both timely notification and documentation to competing carriers for two of two Type 4 changes that occurred in October 1999.[326] We find that these improvements, coupled with the opportunities competing carriers have to participate in the prioritization of changes and the month long testing opportunities provided for Type 4 changes, indicate that an efficient competitor has a meaningful opportunity to compete.[327]

116. In addition, we conclude that Bell Atlantic provides notification for emergency changes (Type 1 changes) in a manner sufficiently timely to allow an efficient competitor a meaningful opportunity to compete. Under the Change Agreement, timely emergency notification simply requires notification prior to implementation.[328] As the KPMG Final Report suggests, timely emergency notification can range from several hours to several days advance notice.[329] Although we understand advance notification is preferable for competing carriers, we also must acknowledge that given the nature of emergency changes, it will not always be possible for Bell Atlantic to notify competing carriers prior to implementation. Some commenters question Bell Atlantic's ability to provide competing carriers with timely notification of Type 1 emergency changes.[330] MCI WorldCom, for instance, complains that the timeliness of Bell Atlantic's

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timely in two of two Type 4 changes that occurred in October through October 19, 1999. Letter from Penny Rubin, Managing Attorney, New York Commission, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 96-98 Attach. at 1 (filed Nov. 30, 1999) (New York Commission Nov. 30 *Ex Parte* Letter); Letter from Dolores A. May, Director, Federal Regulatory, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 (filed Dec. 14, 1999) at 1 (Bell Atlantic Dec. 24 *Ex Parte* Letter).

325 The timeliness of Bell Atlantic documentation for Type 4 changes is still listed as under development in July 1999. Bell Atlantic Dowell/Canny Decl. Attach. D at 85, 97; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 2. In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing its Type 4 change documentation was timely for two of two changes that occurred in October through October 19, 1999. New York Commission Nov. 30 *Ex Parte* Letter, Attach. at 2; Bell Atlantic Dec. 14 *Ex Parte* Letter at 1.

326 In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing its Type 4 change documentation was timely for two of two changes that occurred in October through October 19, 1999. New York Commission Nov. 30 *Ex Parte* Letter, Attach. at 2; Bell Atlantic Dec. 14 *Ex Parte* Letter at 1.

327 Bell Atlantic Miller/Jordan Decl. at paras. 100, 106; MCI WorldCom Lichtenberg/Sivori Decl. at para. 135.

328 Bell Atlantic Miller/Jordan Decl. Attach. G at 19-20. *See, e.g,* Bell Atlantic Dowell/Canny Decl. Attach. D at 84, 96 (listing the standard for timely notification of emergency changes as "Notification before implementation").

329 KPMG Final Report at RMI1 VII-10 (Table VII-1.9).

330 AT&T Comments at 32-33; MCI WorldCom Comments at 23; MCI WorldCom Lichtenberg/Sivori Decl. at paras. 62-63. Documentation timeliness for Type 1 changes is not reported in the Carrier-to-Carrier metrics, because it is not applicable. Bell Atlantic Dowell/Canny Decl. Attach. B at 12 n.5.

emergency notification fell considerably in September 1999, when Bell Atlantic was timely for only seven of twelve Type 1 changes.[331] We note, however, that Bell Atlantic's Type 1 change notification was timely for twenty-five of twenty-six changes in July 1999 and six of six changes that occurred between October 1 and October 19, 1999.[332] Because we believe that as a matter of course emergency changes will occur in situations where Bell Atlantic may be unable to notify competing carriers prior to implementation, we do not find that Bell Atlantic's September 1999 performance prevents us from concluding that Bell Atlantic provides emergency change notification to competing carriers in a manner sufficiently timely to allow an efficient competitor to compete.[333]

117. Our conclusion that Bell Atlantic provides timely change management notification and documentation to competing carriers seeking to use its OSS differs from that reached by the Department of Justice.[334] We reach this conclusion, however, by separately assessing the underlying issues associated with each of the Bell Atlantic change types identified in the Change Agreement. First, with respect to the limited number of changes made at the request of regulatory authorities, industry standard organizations, and competing carriers themselves, Bell Atlantic has established a pattern of general compliance with the notification and documentation intervals in its Change Agreement. Second, we find the recent improvement in Bell Atlantic's timely distribution of Type 4 notification and documentation demonstrates its ability to adhere to its change management process. Finally, while we acknowledge notification prior to implementation of an emergency change will not always be possible, we still find that Bell Atlantic provides sufficiently timely notification to competing carriers.

118. Although we reach the same conclusion as the New York Commission with respect to Bell Atlantic's change management notification and documentation timeliness, we do not rely on Bell Atlantic's willingness to have its future change management notification and

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331 MCI WorldCom Reply at 12; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1.

332 Bell Atlantic Dowell/Canny Decl. Attach. D at 84 (metric PO-4-01). In response to commenters' claims regarding untimely change notification and documentation, Bell Atlantic submitted data showing that its Type 1 change notification was timely for six of six changes that occurred between October 1-19, 1999. New York Commission Nov. 30 *Ex Parte* Letter Attach. at 1; Bell Atlantic Dec. 14 *Ex Parte* Letter (listing October 1-19, 1999 observations for metric PO-4-01).

333 In addition, not all emergency releases result in system changes, thus limiting the inconvenience imposed on competing carriers by Type 1 changes. *See, e.g.*, Bell Atlantic Nov. 24 *Ex Parte* Letter at 4-5 (describing September 1999 Type 1 changes). Moreover, we expect Bell Atlantic's new practice to notify by pager key individuals at competing carriers when an emergency change occurs, and to conduct a conference call whenever there is an immediate software change, will minimize the impact of Type 1 change notification difficulties on competing carriers. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at paras. 69-71; MCI WorldCom Dec. 14 *Ex Parte* Letter at 10.

334 Department of Justice Evaluation at 34 (expressing concern that Bell Atlantic has not yet demonstrated that it is able to provide competing carriers with "relatively stable and predictable documentation"). *See also* AT&T Comments at 28; MCI WorldCom Comments at 20-21; NY Attorney General Comments at 17; Sprint Comments at 22; TRA Comments at 11; AT&T Crafton/Connolly Aff. at paras. 119-121, 124-132; MCI WorldCom Lichtenberg/Sivori Decl. at paras. 57-60.

documentation timeliness enforced through the Change Control Assurance Plan.[335] In addition, we acknowledge that the timeliness of Bell Atlantic's performance falls short of the monthly standards for change management notification and documentation set out in the Carrier-to-Carrier metrics and used in the Change Control Assurance Plan.[336] Nonetheless, when we view Bell Atlantic's overall performance over the course of recent months, we find that Bell Atlantic's notification and documentation timeliness is sufficient to allow an efficient competitor a meaningful opportunity to compete. We will, however, be prepared to take appropriate enforcement action if there is evidence of deteriorating performance in the future. Finally, although our conclusion is based on the specific categories of changes identified in the Bell Atlantic Change Agreement in place in New York, we do not foreclose the possibility that a different plan with a less disaggregated structure and different intervals for notification and documentation may also be sufficient.

(ii) Testing Environment

119. We conclude that Bell Atlantic's permanent QA testing environment provides competing carriers with a stable environment and an adequate opportunity to test Bell Atlantic OSS changes prior to implementation. Specifically, we find the record demonstrates that Bell Atlantic's new testing environment adequately mirrors the production environment and offers the extended testing periods that competing carriers need for new entrant certification and new release testing. MCI WorldCom and AT&T note that as of the date of Bell Atlantic's application, no competing carriers had been given the opportunity to use the permanent QA testing environment and determine that it works in the manner Bell Atlantic represents in its application.[337] We conclude there is sufficient evidence to demonstrate that Bell Atlantic's permanent QA testing environment provides a stable testing environment for competing carriers.

120. We base this conclusion on the experience of the competing carriers that used the permanent QA testing environment without difficulty for an October 16, 1999 software release.[338] Thus, we find that the recent evidence from commercial usage suggests that Bell Atlantic's permanent QA environment works in the manner represented in its application. As the New York Commission attests, with only one minor exception, the results of the production run matched the

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[335] New York Commission Comments at 57.

[336] The standard adopted by the New York Commission for both the Carrier-to-Carrier metrics and the Change Control Assurance Plan is 95 percent change management notification and documentation sent on time with no delays greater than 8 days. Bell Atlantic Dowell/Canny Decl. Attach. B at 11 (listing metric PO-4 performance standard); Bell Atlantic Dowell/Canny Decl. Attach. C, Ex. 2 (Appendix A to Amended Change Control Assurance Plan).

[337] MCI WorldCom Comments at 24-25; AT&T Crafton/Connolly Aff. at para. 235; AT&T Reply at 25; MCI WorldCom Reply at 11-12; AT&T Crafton/Connolly Reply Aff. at para. 24 n.14.

[338] In response to commenters' claims regarding lack of evidence that the permanent QA testing environment actually works as represented in the Bell Atlantic Application, the New York Commission submitted information regarding successful competing carrier use of the permanent QA testing environment for the October 16, 1999 software release. New York Commission Reply at 19.

results of the run in the permanent QA testing environment.[339] The one exception, the absence of a billing telephone number for a directory listing, has been corrected.[340]

121. Our conclusion is buttressed by the similarity between the interim and permanent QA testing environment and KPMG's finding that the interim testing environment adequately mirrored the production environment.[341] Both environments mirror production and offer test decks of representative pre-ordering and ordering transactions.[342] The basic processes for new release and new entrant testing distributed in April 1999 apply to both the interim and permanent environments.[343] The only differences between the two environments are that the permanent QA testing environment is physically separate and expands the test period to one month, thus remedying the major problems identified by KPMG and competing carriers with the interim QA testing environment.[344]

122. We find that the record demonstrates that Bell Atlantic's permanent QA testing environment provides competing carriers with a stable environment and adequate opportunity to test Bell Atlantic OSS changes prior to implementation. Although we reach the same conclusion as the New York Commission, we differ somewhat from that reached by the Department of Justice.[345] The Department of Justice found that while it was hopeful that the permanent QA testing environment would meet competing carrier needs, the results of recent Bell Atlantic improvements did not appear in the record before them.[346] Comments filed subsequent to the evaluation of the Department of Justice, however, demonstrate that the October 16, 1999 software release using the new QA testing environment was successful.[347] As a result, we find that the record now demonstrates that Bell Atlantic provides a testing environment for OSS changes sufficient to enable an efficient competitor a meaningful opportunity to compete.

(iii) Other Issues

339 *Id.* at 19 n.2.

340 *Id.*

341 *See generally* KPMG Exception Closure Report 21 (as referenced in KPMG Final Report at POP IV-18 (Test P1-2)) (evaluating and finding generally satisfactory improved interim QA testing environment).

342 Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 93. A test deck is a compilation of transactions designed to test whether a new release produces expected results. New York Commission Comments at 60.

343 *See* Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 93.

344 *Id.*

345 New York Commission Comments at 59-60.

346 Department of Justice Evaluation at 36.

347 In response to commenters' claims regarding lack of evidence that the permanent QA testing environment actually works as represented in the Bell Atlantic Application, the New York Commission submitted information regarding successful competing carrier use of the permanent QA testing environment for the October 16, 1999 software release. New York Commission Reply at 19. In addition, unlike the Department of Justice, we consider the similarity of the interim QA testing environment to the permanent QA testing environment.

123. AT&T and Sprint assert that Bell Atlantic improperly categorizes a substantial number of changes as Type 1 emergency changes in order to evade the longer notification requirements associated with other types of changes under the Change Agreement.[348] We conclude these claims do not warrant a finding that Bell Atlantic fails to adhere to its change management procedures in a manner sufficient to provide an efficient competitor with a meaningful opportunity to compete. Type 1 emergency changes are specifically defined and provided for in the Change Agreement that was developed in a collaborative proceeding involving Bell Atlantic, competing carriers, and the New York Commission.[349] Furthermore, as AT&T itself acknowledges, on June 30, 1999, Bell Atlantic and competing carriers began a series of workshops that resulted in a more narrow definition of Type 1 changes.[350] This provides evidence of competing carriers' continuing opportunity to provide meaningful input in the change management process in New York. Since these workshops began, Bell Atlantic has reduced the number of Type 1 changes from twenty-six in July 1999 to ten in August, twelve in September and six in the first half of October.[351] Because emergency changes are specifically provided for in the Change Agreement and Bell Atlantic's use of them has decreased in recent months, we find AT&T and Sprint's claims unpersuasive.

124. AT&T and MCI WorldCom allege that Bell Atlantic fails to give competing carriers opportunities to provide input on new releases as it is obligated to do under the Change Agreement.[352] We find that the record simply does not support this claim. For instance, representatives of competing carriers and Bell Atlantic jointly prioritize upcoming changes.[353] In addition, Bell Atlantic and competing carriers meet regularly to discuss upcoming changes and the change management process itself.[354] As part of these meetings, Bell Atlantic and the competing carriers develop a detailed chart of competing carrier requests for action on specific change management issues, track the status of these problems, and note Bell Atlantic actions taken to

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348 *See* Sprint Comments at 20-21; AT&T Crafton/Connolly Aff. at para. 199.

349 Bell Atlantic Miller/Jordan Decl. Attach. G at 7-8, 19-20, 40-45, 80-88.

350 AT&T Crafton/Connolly Aff. at para. 201. *See generally* AT&T Crafton/Connolly Aff., Attach. 8. Based on feedback from competing carriers, Bell Atlantic also agreed to add a pager notification system to ensure that key individuals at competing carriers receive notice of emergency changes as soon as possible. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 69.

351 Bell Atlantic Dowell/Canny Decl. Attach. D at 84, 96; Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1. In response to commenters' claims regarding Type 1 change frequency, Bell Atlantic submitted data showing that only six Type 1 changes occurred in October through October 19, 1999. New York Commission Nov. 30 *Ex Parte* Letter Attach. at 1; Bell Atlantic Dec. 14 *Ex Parte* Letter at 1 (observations listed for metric PO-4-01).

352 MCI WorldCom Comments at 20-21; AT&T Crafton/Connolly Aff. at paras. 207-212.

353 Bell Atlantic Miller/Jordan Decl. at para. 100; MCI WorldCom Lichtenberg/Sivori Decl. at para. 135. Further, as described above, Bell Atlantic and competing carriers participated in a series of workshops to come up with a more narrow definition of Type 1 emergency changes. AT&T Crafton/Connolly Aff. at para. 201. *See generally* AT&T Crafton/Connolly Aff. Attach. 8.

354 MCI WorldCom Comments at 19; MCI WorldCom Lichtenberg/Sivori Decl. at para. 127; Bell Atlantic Miller/Jordan Decl. Attach. G at 4.

address the problem. For example, when MCI WorldCom expressed a preference regarding how customer service record addresses be made available to competing carriers, Bell Atlantic agreed to add this functionality within the remaining weeks before the related change release.[355] At the same time, Bell Atlantic devised a special software approach to defer implementation of this functionality for AT&T, the sole competing carrier that objected to this change.[356] Although we would be concerned about the impact of a BOC disregarding input from competing carriers on change management issues, we do not believe the record indicates that this is a problem for carriers working with Bell Atlantic in New York.

125. We also conclude that problems with specific OSS changes described by MCI WorldCom, Allegiance, and Sprint do not warrant a conclusion that Bell Atlantic fails to adequately assist competing carriers seeking to use its OSS.[357] Because Bell Atlantic must accommodate a variety of interests with any given change release, we reasonably expect some competing carriers to be less than satisfied with any given change.[358] We do not, however, find that these complaints evidence a systemic problem.

(ii) Technical Assistance and Help Desk Support

126. In the *Ameritech Michigan Order*, the Commission determined that in order to provide nondiscriminatory access to OSS, a BOC must first demonstrate that it "has deployed the necessary systems and personnel to provide sufficient access to each of the necessary OSS functions and . . . is adequately assisting competing carriers to understand how to implement and use all of the OSS functions available to them."[359] By showing that it adequately assists competing carriers to use available OSS functions, a BOC provides evidence that it offers an efficient competitor a meaningful opportunity to compete.[360] As part of this demonstration, the Commission will give substantial consideration to evidence showing that the BOC provides adequate technical assistance and help desk support to competing carriers seeking to use its

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355 Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 86.

356 *Id.*

357 Allegiance Comments at 8-9; Sprint Comments at 18-20 (describing difficulties with Bell Atlantic's decision to skip LSOG 3); MCI WorldCom Reply Comments at 15-17, 20 (alleging problems with implementation of the GUI III interface, parsed CSR); MCI WorldCom Dec. 14 *Ex Parte* Letter at 11 (criticizing Bell Atlantic change management notification proposal involving closing trouble tickets without root cause analysis).

358 *See, e.g.*, Bell Atlantic Reply at 39 n.43 (noting that Sprint complaints regarding LSOG 3 must be viewed in light of a general consensus reached by competing carriers in the change management process).

359 *Ameritech Michigan Order*, 12 FCC Rcd at 20616; *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20654.

360 *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655 (citing *Ameritech Michigan Order*, 12 FCC Rcd at 20619; *Local Competition First Report and Order*, 11 FCC Rcd at 15660; *Local Competition Second Reconsideration Order*, 11 FCC Rcd at 19742).

OSS.[361]

127. We conclude that Bell Atlantic demonstrates that it provides the technical assistance and help desk support necessary to give competing carriers nondiscriminatory access to its OSS. Bell Atlantic has produced a separate three volume handbook for resellers and purchasers of UNEs, both available on CD-ROM with word search capability.[362] Documentation is updated for each release and also is made available on Bell Atlantic's web site.[363] Thus, competing carriers have access to complete, up-to-date business rules and ordering codes.[364] Bell Atlantic also conducts regular training courses for competing carriers in key areas.[365] In addition, Bell Atlantic's "Systems Support Help Desk" provides a single point of contact for competing carrier reports of system outages and software defects and provides help to ensure that any problems are resolved as quickly as possible.[366] We are further encouraged by Bell Atlantic's practice of evaluating the performance of its help desk call agents and, when necessary, replacing the tools available to them for analyzing information and resolving problems.[367] Although KPMG reported confusion regarding contact lists and help desk numbers, we find that Bell Atlantic has since fixed this problem.[368] Specifically, we note that in September 1999, Bell Atlantic posted on its web site a comprehensive and descriptive list of the different support features available to competing carriers, including the time of day these support functions are available.[369] Accordingly, we find that Bell Atlantic provides efficient competitors a meaningful opportunity to compete by enabling them to understand how to implement and use all of the OSS functions

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[361] Demonstration of adequate technical assistance and help desk support is also part of the BOC's "obligation 'to provide competing carriers with the specifications necessary to instruct competing carriers on how to modify or design their systems in a manner that will enable them to communicate with the BOC's legacy systems and any interfaces utilized by the BOC for such access.'" *BellSouth South Carolina Order*, 13 FCC Rcd at 628; *Ameritech Michigan Order*, 12 FCC Rcd at 20617.

[362] Volume I provides basic information competing carriers need to know about doing business with Bell Atlantic, Volume II addresses the interfaces available to competing carriers for obtaining access to Bell Atlantic's OSS and provides information on how to obtain the technical specifications for them, and Volume III provides business rules for ordering Bell Atlantic products. Bell Atlantic Miller/Jordan Decl. at paras. 87-89.

[363] Bell Atlantic Miller/Jordan Decl. at 87-88.

[364] Moreover, Bell Atlantic has addressed many of the problems with its business rules and EDI specification documentation identified during the KPMG review, resulting in more accurate documentation for competing carriers seeking to access Bell Atlantic's OSS. *See generally* KPMG Final Report at POP9 IV-227-228 (Tests P9-12, P9-14, P9-17-23).

[365] Bell Atlantic Miller/Jordan Decl. at para. 92.

[366] Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 97.

[367] *Id.*

[368] The KPMG Final Report found that Bell Atlantic documents for competing carriers failed to provide useful contact lists and help desk numbers. KPMG characterized this problem as "Not Satisfied." KPMG Final Report at POP9 IV-220 (Test P9-16).

[369] Bell Atlantic Miller/Jordan/Zanfini Reply Decl. Attach. U (listing from web site of help desk and assistance information for competing carriers).

available to them. Thus, we reject commenters' allegations that Bell Atlantic's technical assistance and help desk support is inadequate.[370]

e. Pre-Ordering

128. Based on the evidence in the record, we conclude that Bell Atlantic demonstrates that it provides nondiscriminatory access to OSS pre-ordering functions. Bell Atlantic offers requesting carriers an industry standard application-to-application pre-ordering interface that enables carriers to integrate pre-ordering and ordering functions. Through this and other pre-ordering interfaces, Bell Atlantic makes available to requesting carriers all the functionality that it provides to itself. Bell Atlantic also shows, through response times and interface availability performance data and third-party testing, that its pre-ordering interfaces and systems are operationally ready and capable of sustaining reasonably foreseeable demand volumes.

(i) Background

129. The pre-ordering phase of OSS generally includes those activities that a carrier undertakes to gather and verify the information necessary to place an order.[371] Given that pre-ordering represents the first exposure that a prospective customer has to a competing carrier, it is critical that inferior access to the incumbent's OSS does not render the carrier a less efficient or responsive service provider than the incumbent.[372] Because most pre-ordering functions that support resale services, as well as many of the functions that support service through unbundled network elements, are analogous to the pre-ordering of a BOC's retail services, Bell Atlantic must demonstrate that it provides requesting carriers access that enables them to perform these functions in substantially the same time and manner as Bell Atlantic's retail operations.[373] For those pre-ordering functions that lack a retail analogue, Bell Atlantic must provide access that affords an efficient competitor a meaningful opportunity to compete.

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[370] Adelphia Comments at 3 (alleging difficulties reaching the appropriate contact person at Bell Atlantic when problems arise that require technical assistance); AT&T Comments at 29 (alleging problems with help desk errors); MCI WorldCom Comments at 23-24 (citing KPMG Final Report); TRA Comments at 12-13 (citing KPMG Final Report); Z-Tel Comments at 14-16 (alleging inadequate wholesale account support); AT&T Reply at 26 (citing KPMG Final Report); MCI Dec. 14 *Ex Parte* Letter at 12 (criticizing Bell Atlantic help desk attendants).

[371] *BellSouth South Carolina Order*, 13 FCC Rcd at 589; *see also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20660 (referring to "pre-ordering and ordering" collectively as "the exchange of information between telecommunications carriers about current or proposed customer products and services or unbundled network elements or some combination thereof."). Pre-ordering consists of several functions and, in prior orders, the Commission has identified the following five functions: (1) customer service record (CSR) information; (2) address validation; (3) telephone number information; (4) due date information; and (5) services and feature information. *Second BellSouth Louisiana Order*, 13 FCC Rcd at 20660; *First BellSouth Louisiana Order*, 13 FCC Rcd at 6274; *BellSouth South Carolina Order*, 13 FCC Rcd at 619.

[372] *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20669.

[373] *BellSouth South Carolina Order*, 13 FCC Rcd at 619; *see also Second BellSouth Louisiana Order*, 13 FCC Rcd at 20655; *Ameritech Michigan Order*, 12 FCC Rcd at 20618-19.

(ii) Discussion

130. *Application-to-Application Functionality*. We find that Bell Atlantic offers requesting carriers access to an application-to-application interface for all pre-ordering functionality that Bell Atlantic provides to itself. In prior orders, the Commission has emphasized that providing pre-ordering functionality through an application-to-application interface is essential in enabling carriers to conduct real-time processing and to integrate pre-ordering and ordering functions in the same manner as the BOC.[374] Bell Atlantic demonstrates through actual commercial usage and the results of third-party testing that it makes application-to-application functionality available for the pre-ordering functions that it provides to itself.

131. Bell Atlantic offers competing carriers pre-ordering OSS functionality through two electronic interfaces: a proprietary Web-based Graphical User Interface (Web GUI);[375] and an application-to-application interface based on the industry standard EDI Issue 9 protocol.[376] Bell Atlantic implemented EDI-9 in July 1998, along with the associated industry standard transaction formats.[377] Requesting carriers have several options for connecting with the EDI interface, and Bell Atlantic documentation provides the specifications for and benefits of each option.[378] Competing carriers therefore have access to complete, up-to-date business rules for pre-ordering functionality. As of the application filing date, approximately 100 carriers were using the Web GUI for pre-ordering, and three carriers were using the EDI interface.[379] Furthermore, Bell

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374 *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20661-67; *BellSouth South Carolina Order*, 13 FCC Rcd at 623-29 (concluding that failure to deploy an application-to-application interface denies competing carriers equivalent access to pre-ordering OSS functions). Moreover, the Commission also found that, without access to an application-to-application interface, a competing carrier would be unable to develop its own customized interface that its staff could use nationwide, and would be required to train its staff on a BOC's proprietary system. *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20662 n.291; *BellSouth South Carolina Order*, 13 FCC Rcd at 624-25.

375 Bell Atlantic describes the Web GUI as "a graphical interface that a [competing carrier] can access from a personal computer via a dedicated/private line or a secure dial-up line, using either Netscape Communicator 4.0 or higher, or Microsoft IE Version 4.0 or higher." Bell Atlantic Miller/Jordan Decl. at para. 23. Although Z-Tel complains that the Secure ID system for carrier access to the Web GUI is inefficient and costly, Bell Atlantic recently eliminated the need for Secure IDs by enabling carriers to access the Web GUI via the Internet using a URL address and password. *See* Z-Tel Comments at 16-17; Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 55. Bell Atlantic states that it provided Z-Tel with passwords on September 20, 1999. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 55.

376 Bell Atlantic Miller/Jordan Decl. at para. 21.

377 Bell Atlantic implemented the transaction formats specified in Local Service Ordering Guidelines (LSOG) version 3 (address validation, appointment scheduling, feature/service availability and telephone number reservation/selection), and worked with MCI WorldCom to develop EDI specifications and business rules for additional functionality (CSR retrieval, loop qualification information, directory listing information, and service order inquiry and installation status). Bell Atlantic Miller/Jordan Decl. at para. 21.

378 Carriers' options for connecting with Bell Atlantic's EDI interface are: direct connection (dial-up or dedicated); Value Added Networks (VANs); public network (Internet) connectivity; and Interactive Agent connectivity using Secure Socket Layer 3 (SSL3) technology. Bell Atlantic Miller/Jordan Decl. at para. 27.

379 Bell Atlantic Application at 37.

Atlantic recently made available a second application-to-application pre-ordering interface, Common Object Request Broker Architecture (CORBA), which it was testing with one carrier when it filed its application.[380]

132. Bell Atlantic represents that these interfaces allow competing carriers "to obtain the same information from the same underlying OSS as Bell Atlantic's own retail service representatives."[381] Specifically, carriers are able to perform the following pre-ordering functions: (1) retrieve CSRs;[382] (2) validate addresses; (3) select and reserve telephone numbers;[383] (4) determine services and features available to a customer; (5) obtain due date availability; (6) access loop qualification information; and (7) view a customer's directory listing.[384] Competing carriers also can check the status of pending orders.

133. With respect to actual commercial usage, Bell Atlantic demonstrates that competing carriers successfully have built and are commercially using application-to-application interfaces (EDI-9 and CORBA)[385] to retrieve CSR information and validate addresses, two of the

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380 Bell Atlantic Miller/Jordan Decl. at para. 20 (indicating CORBA testing in progress with AT&T); Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 23 (stating that CORBA is available to any requesting carrier). AT&T claims that CORBA is superior to EDI in that it "provides faster transmission responses to queries, and it is a more flexible standard that permits fine-tuning to improve data transmission." AT&T Crafton/Connolly Aff. at para. 86.

381 Bell Atlantic Application at 37 n.36. Bell Atlantic's back office pre-ordering systems include: LiveWire (formerly PREMIS) for address validation and telephone number selection and reservation; Work Force Administration (WFA) for service installation status; Customer Record Information System (CRIS) or Carrier Access Billing System (CABS) for customer service records; Direct Order Entry system (DOE) for service and feature availability; SOP for due date availability and service order inquiry; Automated Telephone Listing and Address System (ATLAS) for directory listing information; and PHOENIX for ISDN and ADSL loop qualification. *See* Bell Atlantic Miller/Jordan Decl. Attach. B. In August 1999, Bell Atlantic began replacing the PREMIS system with LiveWire, which, among other things, enhances Bell Atlantic's address validation capabilities.

382 CSRs depict the end user's account with Bell Atlantic, including billing name and address, billing and working telephone numbers, a list of services provided to the end user, and the end user's presubscribed interexchange carrier and local presubscribed interexchange carrier. Bell Atlantic Miller/Jordan Decl. at para. 17. Bell Atlantic implemented "parsed" CSR functionality in May 1999. Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 18. With parsed CSRs, pre-order customer information is separated into identifiable fields (*e.g.*, street number, street name) can automatically populate an order form. *See* MCI WorldCom Comments at 27 n.36; MCI WorldCom Reply at 17.

383 This function allows competing carriers to select a telephone number from up to five available numbers. The selected number is then removed from the pool of available numbers and, if the carrier subsequently submits an order, assigned to the carrier. Letter from Dee May, Director, Federal Regulatory Affairs, Bell Atlantic, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295, at 3-4 (filed Nov. 24, 1999) (Bell Atlantic Nov. 24 *Ex Parte* Letter) (indicating that Bell Atlantic retail representatives obtain a telephone number using the same process and that, with the implementation of LiveWire, residential numbers are removed from the pool for three months and business numbers for twelve months).

384 Bell Atlantic Application at 37 n.36. We note that the seven pre-ordering functions that Bell Atlantic provides to itself go beyond the five functions previously identified by the Commission. *See supra* n. 371.

385 We do not consider the Web GUI's functionality in this section because Bell Atlantic does not represent that the Web GUI is an application-to-application interface. We note, however, that the Web GUI provides an

seven pre-ordering functions.[386] MCI WorldCom, for example, implemented EDI access for parsed CSR retrieval on September 3, 1999, followed by address validation for migrating customers on November 1, 1999.[387] Similarly, AT&T acknowledges that it has commercially deployed CORBA for the same two pre-ordering functions.[388] In addition, CTC Communications, a reseller, successfully implemented EDI for parsed CSR retrieval in June 1999.[389]

134. Along with commercial usage, we also base our conclusion on the demonstrated ability of the third-party testers to construct and extensively test the EDI interface for all pre-ordering functions. As part of the third-party testing, Hewlett Packard used documentation provided by Bell Atlantic to build an EDI interface capable of performing each pre-ordering function, including parsed CSR retrieval.[390] KPMG then conducted a functional evaluation and volume and stress tests of the EDI interface, which verified Bell Atlantic's ability to provide the requisite pre-ordering functionality.[391] Although MCI WorldCom alleges that KPMG's testing interface was not as robust as one required in an actual production environment,[392] we find that

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economically efficient pre-ordering interface for low-volume carriers and new entrants. *See Ameritech Michigan Order*, 12 FCC Rcd at 20661; *see also* AT&T Crafton/Connolly Aff. at para. 73; Department of Justice Evaluation at 34 n.92; New York Commission Comments at 37; Z-Tel Comments at 16 (noting the Web GUI's suitability for use by small carriers). KPMG conducted a comprehensive functional evaluation and verified that the Web GUI pre-ordering interface enables carriers to perform the seven pre-ordering functions. *See* KPMG Final Report at POP2 IV-20-41.

386 Bell Atlantic Miller/Jordan Decl. at para. 22. We do not rely on Bell Atlantic's unsubstantiated claims that carriers are also using the EDI pre-ordering interface for telephone number reservation and selection and due date availability. *See* Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 14.

387 MCI WorldCom Comments at 27, 31; MCI WorldCom Lichtenberg/Sivori Reply Decl. at paras. 10, 13. Although MCI WorldCom recently discovered that its parsed CSR functionality does not cover all order types, it does not assert that it is incapable of adding such functionality or that the exclusion of ISDN orders will impede its ability to compete in the local services market.

388 AT&T Comments at 26; AT&T Crafton/Connolly Aff. at para. 87 (indicating that AT&T deployed CORBA for commercial production for address validation in September 1999, and for parsed CSR retrieval during the first week of October 1999).

389 *See* Bell Atlantic Miller/Jordan Decl. Attach. A at 2 (Donnellan Affidavit).

390 *See* KPMG Final Report at Executive Summary II-3; Bell Atlantic Application App. C, Tab 654, Hewlett Packard Consulting, "CTTG Project Final Report," Final Version (Apr. 20, 1999) (HP CTTG Final Report).

391 *See* KPMG Final Report at POP5 IV-75-137 (EDI Functional Evaluation and Normal Volume Test); POP6 IV138-149 (EDI Stress Test); *see also* New York Commission Comments at 37-38. In particular, KPMG tested the following pre-order functions: address validation; telephone number selection and reservation; directory listing inquiry; service scheduling and due date availability; feature and service availability; customer service record retrieval; carrier access billing retrieval; installation status request; loop qualification and reservation channel facility inquiry; and service order inquiry. KPMG Final Report at POP5 IV-77-78. KPMG also retrieved a limited number of parsed CSRs, and confirmed Bell Atlantic's ability to provide parsed CSR functionality. KPMG Final Report at POP5 IV-135.

392 MCI WorldCom Comments at 28. For instance, MCI WorldCom claims that KPMG did not attempt to design the transport and security necessary for the interface in actual production. *Id.*

KPMG's testing interface was able to handle numerous pre-order transactions and extensive scenarios, using common security and transport (*i.e.*, File Transfer Protocol with Public Key Encryption).[393] We therefore accord substantial weight to the demonstrated ability of the third-party testers in this case to build an application-to-application interface for all pre-ordering functions.

135. In this regard, we are not persuaded by commenters' claims that we should discount the ability of third-party testers to construct an EDI interface for all pre-ordering functions because the testers received favorable treatment from Bell Atlantic.[394] The testing interface was constructed using publicly available Bell Atlantic documentation.[395] Although KPMG acknowledges that at times it received better treatment from Bell Atlantic than that of an ordinary carrier,[396] there is no evidence to suggest that such treatment skewed the test results.[397] Indeed, the record shows that the New York Commission closely supervised the design and operation of the test.[398] KPMG also specifically reviewed pre-order functionality experienced by actual carriers during its Live CLEC Functional Evaluation "in an effort to assess potential bias in the transaction tests."[399] We find no evidence that the Live CLEC Functional Evaluation revealed that Bell Atlantic provided inferior documentation or technical support to competing carriers.[400]

136. We further find that the fact that no carrier has chosen to access all seven pre-ordering functions using an application-to-application interface does not disprove Bell Atlantic's showing that it makes such functionality available. As we have previously stated, Bell Atlantic is

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393 *See* New York Commission Comments at 33-34, 38; KPMG Final Report at POP5 IV-102 (Table IV-5.10) (indicating that KPMG sent 3,400 transactions over the pre-ordering interfaces during its functional evaluation, and more than 23,000 during the volume tests).

394 *See* MCI WorldCom Comments at 28 (claiming that, because Bell Atlantic "showed favoritism" to the testers, KPMG's ability to construct an EDI interface for all pre-ordering functions does not demonstrate that Bell Atlantic provides the documentation and support necessary for other carriers to build all functionality for use in a production environment).

395 *See* KPMG Final Report at Executive Summary II-3; HP CTTG Final Report, Overview § 1.4 at 3.

396 *See* KPMG Final Report at Executive Summary II-8 ("For the most part we believe that the quality of service we received during the test was comparable to that generally received by CLECs. However, on several occasions we believe that we received better treatment than a normal CLEC. For example, BA-NY resources assigned to handle many of our problem escalations were very senior BA-NY resources.").

397 Rather, to the extent that Bell Atlantic incorporated the testers' suggestions for enhancing its documentation, we find that competing carriers benefited significantly from the third-party testers' construction and testing of the interface. *See* Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 12 (indicating that Bell Atlantic incorporated Hewlett Packard's suggestions into its EDI documentation).

398 *See* New York Commission Comments at 31-34.

399 KPMG Final Report at POP3 IV-42 (noting that the Live CLEC Functional Evaluation "allowed for an element of blind testing and tracking performance in a 'real world' environment.").

400 *See* KPMG Final Report at POP3 IV-42-64.

not required to actually furnish a particular item to satisfy its obligations under the checklist; rather, it must show that it has a concrete and specific legal obligation to furnish the item upon request and is "presently ready" to furnish the item.[401] The record in this case shows that factors internal to carriers have affected their decision not to develop and commercially deploy an application-to-application interface for all pre-ordering functions. For instance, carriers acknowledge that they place a higher priority on accessing certain functions (*i.e.*, CSR retrieval and address validation) through an application-to-application interface than other functions that are not as critical to the carrier's business plan.[402] Indeed, AT&T acknowledges that, with access to CSR retrieval and address validation, it can "ramp up commercial volumes using CORBA's present capabilities."[403] It would therefore be inappropriate to penalize Bell Atlantic simply because carriers are not actively seeking to implement the remaining application-to-application functions at this time.[404] In any event, we expect that the experience carriers gained in implementing parsed CSR retrieval and address validation will facilitate their efforts to deploy the remaining application-to-application functions.

137. *Integration.* We find that Bell Atlantic demonstrates that its application-to-application interfaces allow competing carriers to integrate pre-ordering information into Bell Atlantic's ordering interface and the carriers' back office systems, a finding that is fundamental to a BOC's showing of nondiscriminatory access to OSS.[405] The Commission has explained previously that a BOC with integrated pre-ordering and ordering functions must provide competing carriers with access to the same capability.[406] In this regard, the BOC must enable competing carriers to transfer pre-ordering information electronically to the BOC's ordering interface or to the carriers' own back office systems, which may require "parsing" pre-ordering

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401 *See Ameritech Michigan Order*, 12 FCC Rcd at 20601-02, 20614 (explaining that a BOC's duty to "provide" a checklist item where no competitor is actually using the item requires that it demonstrate that it makes the item available as both a legal and practical matter); *id.* at 20618 (recognizing that a BOC need not ensure that competing carriers are currently using every OSS function as long as the BOC can demonstrate that the lack of use is a result of carriers' business decisions).

402 MCI WorldCom, for example, claims that retrieving parsed CSRs is the most important pre-ordering function, and that lack of application-to-application access to service and feature information is "not nearly as problematic" and "has not proven to be a commercial necessity." MCI WorldCom Lichtenberg/Sivori Reply Decl. at para. 6. *See also* MCI WorldCom Lichtenberg/Sivori Decl. at para. 69.

403 AT&T Crafton/Connolly Aff. at para. 88.

404 MCI WorldCom further notes that its deployment schedule has been affected by a self-imposed "Y2K moratorium" on software changes that began on October 1, 1999, although it was able to secure an exception to implement EDI address validation on November 1, 1999. MCI WorldCom Lichtenberg/Sivori Decl. at para. 96. Nevertheless, MCI WorldCom implies that application-to-application access to telephone number selection, due date availability, and address validation for new customers could be implemented as early as the first quarter of 2000, and the other pre-ordering functions later that year. *Id.*; MCI WorldCom Reply at 20-21. *See also* Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 16 (indicating that MCI WorldCom has completed EDI testing for telephone number reservation and selection, due date availability and directory listing information).

405 *See* New York Commission Comments at 48.

406 *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20661-67; *First BellSouth Louisiana Order*, 13 FCC Rcd at 6275-79; *BellSouth South Carolina Order*, 13 FCC Rcd at 602, 620-29.

information into identifiable fields.[407] Without an integrated system, a competing carrier would be forced to re-enter pre-ordering information manually into an ordering interface, which leads to additional costs and delays, as well as a greater risk of error.[408] This lack of integration would place competitors at a competitive disadvantage and significantly impact a carrier's ability to serve its customers in a timely and efficient manner.[409]

138. Our finding that Bell Atlantic's pre-ordering and ordering interfaces are readily integratable is based on evidence of successful commercial integration and KPMG's findings. In terms of commercial usage, Bell Atlantic demonstrates that CTC Communications was able to develop an integrated EDI pre-ordering and ordering system for parsed CSR information.[410] Similarly, we find that MCI WorldCom and AT&T have integrated parsed CSR retrieval and limited address validation functionality into their back office systems.[411] This successful integration of two pre-ordering functions in a commercial setting is probative evidence that carriers are capable of integrating the remaining pre-ordering functions.[412] This evidence is also consistent with KPMG's finding that Bell Atlantic's pre-ordering and ordering interfaces are integratable.[413] Although KPMG did not build a back office system to automatically populate the

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407 *See BellSouth South Carolina Order*, 13 FCC Rcd at 620.

408 *See Second BellSouth Louisiana Order*, 13 FCC Rcd at 20661, 20666, 20676-77; *First BellSouth Louisiana Order*, 13 FCC Rcd at 6276-77; *BellSouth South Carolina Order*, 13 FCC Rcd at 602, 623-24, 629 (finding that, in addition to increased costs and delays, manual retyping of information can contribute to a high error rate); *see also* AT&T Comments at 26; AT&T Crafton/Connolly Aff. at paras. 70, 73, 81 (noting that, absent integration, a carrier would incur substantial costs, delays, and risks of error by entering data twice – once into Bell Atlantic's OSS and again into the carrier's own systems); MCI WorldCom Comments at 26; MCI WorldCom Lichtenberg/Sivori Decl. at paras. 9-10, 21 (claiming that manual re-entry of pre-ordering information hinders a carrier's ability to reach commercial volumes of orders).

409 *BellSouth South Carolina Order*, 13 FCC Rcd at 623.

410 *See* Bell Atlantic Miller/Jordan Decl. at para. 22. Bell Atlantic submitted the testimony of Michael H. Donnellan, Vice President of Operations for CTC Communications, describing CTC's development of an EDI pre-ordering interface through which "Bell Atlantic data is seamlessly inserted into CTC systems." Bell Atlantic Miller/Jordan Decl. Attach. A at 3. Specifically, Donnellan asserts that "the information requested through a CSR flows in a file from Bell Atlantic's pre-order systems into CTC's information systems," where it is "reviewed on line and then an EDI order is created." *Id.* Donnellan also cites "Bell Atlantic's demonstrated effort" in assisting CTC through the development and testing stages. *Id.* We expect that Bell Atlantic will provide all necessary documentation and technical assistance to other carriers that seek to integrate pre-ordering and ordering functions.

411 *See, e.g.*, Letter from Lori Wright, Senior Manager, Regulatory Affairs, MCI WorldCom, to Magalie Roman Salas, Secretary, Federal Communications Commission, CC Docket No. 99-295 (filed Nov. 24, 1999) (MCI WorldCom Nov. 24 *Ex Parte* Letter) (indicating that MCI WorldCom has successfully integrated parsed CSR retrieval and address validation using EDI); AT&T Crafton/Connolly Reply Aff. at para. 32 (indicating that AT&T has successfully integrated parsed CSR retrieval and address validation using CORBA).

412 *See supra* at para. 136 (discussing carriers' internal business decisions to delay deployment of other application-to-application functionality, some of which MCI WorldCom has completed testing).

413 For example, KPMG stated:

pre-ordering data into the ordering interface, it did evaluate the compatibility of the pre-ordering and ordering field names and formats and found that carriers would be able to integrate the information into their back office systems.[414]

139. We are not persuaded by commenters' claims that full integration is not presently possible because Bell Atlantic's pre-ordering and ordering field names and formats are not entirely uniform.[415] Based on the record evidence of successful commercial integration, it does not appear that incompatible fields are significantly increasing carriers' costs or impeding their ability to integrate pre-ordering and ordering functionality. In fact, MCI WorldCom indicates that it resolved problems with field incompatibility for the two functions that it has integrated successfully.[416] Of course, to the extent that Bell Atlantic becomes aware of any inconsistencies in field names or formats that would impede a carrier's ability to integrate pre-ordering and ordering functions, we expect that Bell Atlantic promptly will design and deploy a software correction or provide the necessary technical assistance to competing carriers in the interface integration.[417]

> For [competing carriers] attempting to integrate the EDI pre-order and order processes, efficiencies can be achieved by automating the population of order input fields with information returned in the pre-order response forms. [Bell Atlantic] has published a guide that identifies the transport format of an EDI transaction. [Bell Atlantic] has also published business rules documents that specify how [competing carriers'] pre-orders and orders should be structured.

KPMG Final Report at POP5 IV-76 (footnotes omitted).

414 As KPMG reported:

> [A] limited number of integrated pre-order/order transactions were conducted. In these cases, the information returned in the pre-order response was manually copied, without modifications, into the Local Service Request (LSR). This test was conducted to highlight any inconsistencies in field name and format between pre-order and order forms.

KPMG Final Report at POP5 IV-79; *see also id.* at POP5 IV-90 (identifying the integrated pre-order/order scenarios tested). KPMG identified certain field name and format inconsistencies, but found that the problems could be addressed by building a logical interface between pre-order responses and orders. *Id.* at POP5 IV-119-121; POP5 IV-128-130 (Table IV-5.20).

415 *See* AT&T Comments at 13, 22, 26 (claiming that CORBA cannot be "fully" integrated with the EDI ordering interface); AT&T Crafton/Connolly Aff. at paras. 82-83, 88, 91 n.51 (claiming that inconsistencies in the data elements for pre-ordering and ordering preclude full integration). Without uniformity, the pre-ordering data cannot automatically populate an order form but instead must be translated into the proper field characteristics for ordering. *See* AT&T Crafton/Connolly Aff. at paras. 79-85. AT&T nonetheless admits that it has not yet tested whether it can integrate the remaining pre-ordering functions using CORBA. *See* AT&T Crafton/Connolly Reply Aff. at para. 32.

416 *See* MCI WorldCom Nov. 24 *Ex Parte* Letter ("MCI WorldCom has resolved the problems with the differences in the pre-order and order field sizes for the two functions (CSR and address validation) that currently are up-and-running.").

417 We note that Bell Atlantic plans to minimize inconsistencies in fields and formats and simplify the use of pre-ordering and ordering interfaces with the rollout of LiveWire, the implementation of LSOG 4 in February 2000 and in ongoing collaborative discussions with competing carriers "which will result in still further commonality in mid-2000." Bell Atlantic Nov. 24 *Ex Parte* Letter at 5.

140. *Access to Loop Qualification Information.*[418] We find that Bell Atlantic demonstrates that it offers nondiscriminatory access to OSS pre-ordering functions associated with determining whether a loop is capable of supporting xDSL advanced technologies.[419] As an initial matter, we recognize that the Commission's recently enunciated *UNE Remand* rules, which further defined an incumbent LEC's obligations regarding nondiscriminatory access to loop qualification information, are not in effect. We do not consider, therefore, whether Bell Atlantic complies with the requirements that resulted from that proceeding in the context of this section 271 application. Rather, for purposes of this application, in determining whether Bell Atlantic is providing nondiscriminatory access to its OSS in accordance with section 271(c)(2)(B)(ii) and (xiv), we evaluate only whether Bell Atlantic provides requesting carriers equivalent access to the loop qualification functionality that it provides to itself.[420]

141. As the Department of Justice observes, "[a]ccess to pre-ordering information is particularly important in connection with DSL services because of the special loop requirements for such services."[421] Whether a prospective customer can be provided a particular advanced service often depends upon the carrier having access to detailed information about available loops, including the actual loop length and the presence of bridged taps, load coils, and digital loop carrier equipment. As the Commission previously has explained, a BOC's duty to provide nondiscriminatory access to OSS extends beyond the interface component to encompass all of the processes and databases used by the BOC in providing service to itself and its customers.[422] In the *Advanced Services Order and NPRM*, the Commission explained that "[i]f new entrants are to have a meaningful opportunity to compete, they must be able to determine during the pre-ordering process as quickly and efficiently as can the incumbent, whether or not a loop is capable of supporting xDSL-based services."[423] A BOC therefore must provide requesting carriers

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[418] Aside from access to loop qualification information and due date information, which is discussed in Section V.B.1.f below, commenters do not dispute that the functionality provided by Bell Atlantic for the other pre-ordering functions is nondiscriminatory.

[419] Because characteristics of a loop, such as its length and the presence of various impediments to digital transmission, can hinder certain advanced services technologies, carriers often seek to "pre-qualify" a loop by accessing basic loop makeup information that will assist carriers in ascertaining whether the loop, either with or without the removal of the impediments, can support a particular advanced service. *See* Covad Conley/Poulicakos Decl. at para. 39; Rhythms Geis/Williams Aff. at paras. 13, 38-39, 49-51; *see also Deployment of Wireline Services Offering Advanced Telecommunications Capability, et al.*, CC Docket Nos. 98-147 *et al.*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 FCC Rcd 24012, 24037 (1998) (*Advanced Services Order and NPRM*), *recon. pending*.

[420] We note that, after the effective date of the *UNE Remand* rules, Bell Atlantic and all other incumbent LECs must comply with these rules, and future section 271 applicants must demonstrate compliance with the new requirements.

[421] Department of Justice Evaluation at 25.

[422] *See Ameritech Michigan Order*, 12 FCC Rcd at 20616; *see also id.*, 12 FCC Rcd at 20615 (considering "all of the automated and manual processes that a BOC has undertaken to provide access to OSS functions.").

[423] *Advanced Services Order and NPRM*, 13 FCC Rcd at 24038. The Commission explained that "[a]n incumbent LEC does not meet the nondiscrimination requirement if it has the capability electronically to identify xDSL-capable loops, either on an individual basis or for an entire central office, while competing providers are

nondiscriminatory access to the systems and processes for identifying loop characteristics that it provides to its retail representatives.

142. Bell Atlantic provides three avenues for competing carriers to obtain information regarding its loops. First, for a limited number of central offices, Bell Atlantic provides a mechanized loop qualification process that indicates a theoretical loop length and whether a loop is qualified for ADSL service.[424] Bell Atlantic is currently surveying its entire loop inventory to identify loops that are ADSL-capable, and expects to have "93 percent of Bell Atlantic's central offices in New York with completed or pending collocation orders" pre-qualified by the end of 1999.[425] Second, for central offices that are not included within the mechanized loop qualification database, Bell Atlantic will conduct a "Manual Loop Qualification" to provide carriers with the same information that is ordinarily available through the mechanized loop qualification process (*i.e.*, theoretical loop length and ADSL capability).[426] Third, in order to access more detailed information about the makeup of a particular loop, carriers can request a manual "Engineering Query" that can provide the physical loop length, the number and location of load coils, the length and location of bridged taps, the gauge of the wire at specific locations, and the locations of digital loop carrier equipment.[427] Bell Atlantic states that almost all of this information must be

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relegated to a slower and more cumbersome process to obtain that information." *Id.* As these statements demonstrate, there can be no doubt that Bell Atlantic and other BOCs have had sufficient notice that their section 271 obligation to provide nondiscriminatory access to OSS extends to loop qualification information.

[424] Specifically, the mechanized loop qualification database identifies unloaded copper loops that are 18,000 feet or less in length, all of which were designed with less than 6,000 feet of bridged taps. *See* Bell Atlantic Application at 21; Bell Atlantic – New York's Joint Affidavit in Support of Proposed Rates for ADSL-Qualified, HDSL-Qualified, and Digital-Designed Links, Case 98-C-1357 (Sept. 13, 1999) at para. 24; Letter to Magalie Roman Salas, Secretary, FCC, to Dee May, Director, Federal Regulatory Affairs, Bell Atlantic, CC Docket No. 99-295 (filed Nov. 22, 1999) (Bell Atlantic Nov. 22 *Ex Parte* Letter). In contrast to competing carriers, Bell Atlantic's retail representatives can "prequalify" a loop only through the mechanized loop qualification process. If a customer's line is not shown as qualified for ADSL service through the mechanized database, Bell Atlantic's sales representatives will not sell ADSL services to that customer. Bell Atlantic Miller/Jordan Decl. at para. 17; Bell Atlantic Lacouture/Troy Reply Decl. at para. 99.

[425] Bell Atlantic Application at 21; Bell Atlantic Lacouture/Troy Decl. at para. 84. According to Bell Atlantic, central offices with collocation represent 90 percent of the company's access lines in New York. Bell Atlantic Lacouture/Troy Decl. at para. 84. Bell Atlantic populates the mechanized loop qualification database for a particular central office by conducting a mechanized loop test of a sample of the loops in each terminal served by that office and determining whether the individual loop is served by copper or by fiber technology. *See* Bell Atlantic – New York's Joint Affidavit in Support of Proposed Rates for ADSL-Qualified, HDSL-Qualified, and Digital-Designed Links, Case 98-C-1357 (Sept. 13, 1999) at para. 23.

[426] Specifically, the Manual Loop Qualification process provides the total metallic loop length, the presence of load coils and digital loop carrier equipment and the capability of the loop to support ADSL. *See* Bell Atlantic Application at 21; Bell Atlantic Lacouture/Troy Decl. at para. 85; Bell Atlantic – New York's Joint Affidavit in Support of Proposed Rates for ADSL-Qualified, HDSL-Qualified, and Digital-Designed Links, Case 98-C-1357 (Sept. 13, 1999) at para. 29.

[427] *See* Bell Atlantic Application at 21; Bell Atlantic Lacouture/Troy Reply Decl. at para. 102; Bell Atlantic Nov. 22 *Ex Parte* Letter at 2.

obtained and verified using paper loop plant records, or "plats."[428]

143. We find that these mechanized and manual processes enable requesting carriers to access loop qualification information in substantially the same time and manner as Bell Atlantic's retail operations.[429] The record shows that competing carriers have access to the same database that Bell Atlantic makes available to its retail representatives, and therefore the same information for the same central offices.[430] We disagree with commenters' claims that the mechanized process is discriminatory because, in populating the database, Bell Atlantic filtered its back office information in such a manner that it is useful only for Bell Atlantic's particular advanced services offering.[431] Indeed, we find that competing carriers have access to the same underlying information that Bell Atlantic used to populate the mechanized loop qualification database.[432] Although carriers seek real-time electronic access to other back office databases,[433] we do not find convincing evidence on this record that the information that carriers seek in electronic form is

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428 Bell Atlantic Lacouture/Troy Reply Decl. at para. 102.

429 Given the mechanized and manual processes described above, we differ with the Department of Justice's belief that the record is not sufficiently developed to conclude that Bell Atlantic is providing nondiscriminatory access to loop qualification information. *See* Department of Justice Evaluation at 26.

430 Bell Atlantic Lacouture/Troy Decl. at para. 85. Although Bell Atlantic is still in the process of surveying loops, the company claims that, as the loop information is gathered, it is made available simultaneously to competitors and its retail operations. We therefore disagree with carriers that argue that the mere fact that the mechanized loop qualification tool is not yet available in every central office renders it discriminatory. *See* CompTel Comments at 26; CoreComm Comments at 7; Covad Comments at 28; Northpoint Comments at 6, 8-9; Rhythms Comments at 14-20.

431 *See* Covad Comments at 28-29; MCI WorldCom Comments at 34-35; MCI WorldCom Kinard Decl. at paras. 7-11; Network Access Comments at 9-10; New York State Attorney General's Comments at 16; Northpoint Comments at 7, 11-12; Rhythms Comments at 15-17; Sprint Comments at 11-14. MCI WorldCom, for example, claims that the mechanized loop qualification tool fails to provide carriers with loop length for loops over 18,000 feet, the length of the loop without bridged taps, the location and number of bridged taps, the loop wire gauge, spectrum management information, and the presence of load coils, digital loop carriers, repeaters, Digital Added Main Lines and pair gain devices, which could be used to assess the loop's compatibility with xDSL services other than ADSL. MCI WorldCom Comments at 35.

432 Although commenters note that manual loop qualification processes (the Manual Loop Qualification and the Engineering Query) are time consuming and costly, they do not dispute that the manual processes provide access to all the loop makeup information that they need to make an independent assessment about a loop's suitability for a particular advanced service. *See* CompTel Comments at 27; Covad Comments at 29; Covad Conley/Poulicakos Aff. at para. 48; MCI WorldCom Comments at 32-36; Network Access Comments at 9-10; NorthPoint Comments at 7; Prism Comments at 21; Rhythms Comments at 15. We recognize that, pursuant to its tariff investigation, the New York Commission is in the process of reviewing the costs, as well as terms and conditions, of the access to loop makeup information that Bell Atlantic provides to competing carriers. *See infra* Section V.B.3.

433 *See* CompTel Comments at 26-27; Covad Reply at 14-15; MCI WorldCom Comments at 35 n.48; MCI WorldCom Kinard Decl. at para. 15 n.18; Northpoint at 5, 11-12; Rhythms at 17-20; Rhythms Geis/Williams Aff. at paras. 36-37, 43. Specifically, commenters seek access to the Loop Facility Assignment and Control System (LFACS), which inventories, maintains and assigns outside plant local loop facilities, and the Trunk Inventory Record Keeping System (TIRKS), which inventories, maintains and assigns facilities for interoffice transmission, trunking and other special services. Bell Atlantic Miller/Jordan Decl. at para. 64.

currently contained in any existing Bell Atlantic database that carriers cannot already access.[434]

144. *Response Times*. We find that Bell Atlantic demonstrates that it provides requesting carriers access to pre-ordering functionality in substantially the same time that it provides access to its retail operations. With respect to parsed CSR retrieval, which has no retail analogue, we conclude that Bell Atlantic provides access sufficient to allow an efficient competitor a meaningful opportunity to compete.

145. To compete effectively in the local exchange market, competing carriers must be able to perform pre-ordering functions and interact with their customers as quickly and efficiently as the incumbent.[435] The Commission previously has determined that a slower, less efficient process would have a significant impact on a competing carrier's ability to compete.[436] For example, competing carriers must be able to retrieve a prospective customer's service record and other pre-order information in substantially the same time that it takes a BOC's retail representative to access the same information. A slower process can lead to delay while a prospective customer is on the line, causing the customer to view the competing carrier as a less efficient competitor than the BOC.[437] Such a delay would also increase a carrier's operating costs and impede its ability to engage in aggressive marketing campaigns.[438]

146. Our finding that Bell Atlantic processes pre-order inquiries from competing carriers in substantially the same time that it takes to process analogous retail transactions is based on Bell Atlantic's performance data.[439] Bell Atlantic reports pre-order response times[440] according

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[434] In response to commenters' assertions, Bell Atlantic claims that it "does not itself use or maintain" loop makeup information in a mechanized database, and that competing carriers seek "information that is not mechanized in [Bell Atlantic's] systems." Bell Atlantic Reply at 15; Bell Atlantic Lacouture/Troy Reply Decl. at para. 102. *See also* Bell Atlantic Nov. 22 *Ex Parte* Letter at 3 (representing that LFACs does not contain loop makeup information "[i]n well over 90 percent of the cases."). We find no conflicting evidence on the present record.

[435] *See BellSouth South Carolina Order*, 13 FCC Rcd at 625, 634-36 (expressing concern that significantly greater time is required for competitors to access and review pre-ordering information); *Ameritech Michigan Order*, 12 FCC Rcd at 20616 (finding that limits on the processing of information between an interface and legacy systems that prevent a competitor from performing a transaction in substantially the same time and manner as the BOC would be discriminatory).

[436] *BellSouth South Carolina Order*, 13 FCC Rcd at 636.

[437] *See BellSouth South Carolina Order*, 13 FCC Rcd at 588; *see also* AT&T Crafton/Connolly Aff. at para. 85 n.47 ("AT&T representatives perform the CSR retrieval while the customer is on the line.").

[438] *See BellSouth South Carolina Order*, 13 FCC Rcd at 636.

[439] We also note that KPMG reported response times for pre-order transactions, but given the significant improvement in the recent commercial usage data, we place less weight on KPMG's response times. *See* KPMG Final Report at POP5 IV-131, 136.

[440] Response time is the time that elapses between the submission of a query and the receipt of a response by the requesting carrier. *See* KPMG Final Report at POP8 IV-166; *see also Performance Measurements NPRM*, 13 FCC Rcd at 12837 (discussing the average interval for providing access to pre-ordering information).

to a performance standard of "parity plus four seconds" established by the New York Commission based on a consensus reached in the Carrier-to-Carrier collaborative proceeding.[441] Given the additional security measures and computer translations needed to process pre-order transactions from competing carriers,[442] we find that the "parity plus four seconds" standard is a reasonable and appropriate measure of whether Bell Atlantic processes pre-order transactions for competing carriers in substantially the same time that it processes its own pre-order transactions.

147. Performance data from August through September 1999 show that Bell Atlantic responds to pre-order inquiries from competing carriers in substantially the same time that it responds to analogous pre-order inquiries from retail representatives.[443] Where Bell Atlantic deviated from the parity standard, it did so by only a fraction of a second for some pre-order functions, and less than two seconds for all others.[444] Although a few commenters claim that these disparities are significant,[445] we disagree and find that the slight variations in response times are not likely to impair the ability of a competing carrier to negotiate a service order while a customer is on the line. We also find no evidence in the record that these slight deviations have impacted a competing carrier's ability to conduct an aggressive marketing campaign or to compete effectively in the local exchange market. We therefore do not find that the slight deviations warrant a finding that Bell Atlantic does not return pre-order transactions for competing carriers in substantially the same time that it does for itself. We are nonetheless prepared to take appropriate enforcement action should the deviations in response times become more commercially significant or widespread.

148. We reject commenters' assertions that Bell Atlantic's performance measurements

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441 *See* Bell Atlantic Dowell/Canny Decl. Attach. B at 5-7; New York Commission Comments at 38-39. Most pre-order transactions, except for retrieval of parsed CSRs, have a retail analogue and are subject to a performance standard of "parity plus four seconds." We discuss the response times for parsed CSRs below. *See infra* paras. 151-53.

442 The four-second differential accounts for additional security requirements and computer translations that Bell Atlantic systems undertake to provide access to competing carriers. *See* Bell Atlantic Dowell/Canny Decl. at para. 23, Attach. B at 6; New York Commission Comments at 38-39.

443 Although Bell Atlantic reported pre-order response times in June and July that met the "parity plus four seconds" standard for all pre-order functions reported, we rely on data starting in August because, as discussed below, Bell Atlantic made changes in the way that it calculates response times in August that more accurately capture response times experienced by competing carriers.

444 For EDI unparsed CSR retrieval, Bell Atlantic failed to meet the standard by .95 of a second in August and 1.52 seconds in September. For EDI due date availability, Bell Atlantic met the standard each month. For EDI address validation, Bell Atlantic met the standard in August and deviated by 1.87 seconds in September. For EDI product and service availability, Bell Atlantic met the standard in August and deviated by .16 of a second in September. *See* Bell Atlantic Dowell/Canny Decl. Attach. D at 96 (metrics PO-1-01; PO-1-02; PO-1-03; PO-1-04 for August 1999); Bell Atlantic Dowell/Canny Reply Decl. Attach. C at 1 (metrics PO-1-01; PO-1-02; PO-1-03; PO-1-04 for September 1999).

445 *See* AT&T Crafton/Connolly Aff. at para. 85 n.47; AT&T Crafton/Connolly Reply Aff. at paras. 37-40.

do not accurately reflect pre-order response times experienced by carriers,[446] given the measures that Bell Atlantic implemented prior to filing its application that capture pre-order response time more accurately.[447] Specifically, as agreed to in the New York Commission's Carrier-to-Carrier collaborative proceeding, Bell Atlantic generates pre-order response time measurements using the EnView system (formerly called Sentinel).[448] Instead of timing actual pre-order transactions, EnView simulates pre-ordering transactions for both competing carriers and Bell Atlantic's retail operations using "robots."[449] These robots send periodic pre-order inquiries, at least ten transactions per hour for each transaction type, into Bell Atlantic's back office pre-ordering systems 24 hours a day, seven days a week. The response times reported in the metrics are monthly averages of the average daily transactions captured from 8:00 a.m. to 6:00 p.m., Monday through Friday.[450] Prior to August, the EnView system reported response times only for Bell Atlantic's older Electronic Interface Format (EIF) interface. In August, at the request of the New York Commission staff, Bell Atlantic began separately measuring and reporting response times for the EDI interface and, for both interfaces, began measuring transaction time from receipt of the request at the Bell Atlantic firewall to return of the response through the Bell Atlantic firewall.[451]

149. We find that the changes implemented in August significantly improved the accuracy of the EnView system as a measure of pre-order response time.[452] Specifically, we find

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[446] *See* AT&T Comments at 48; AT&T Crafton/Connolly Aff. at para. 78 n.44, 85 n.47; AT&T Crafton/Connolly Reply Aff. at para. 36; MCI WorldCom Kinard Decl. at paras. 7-8.

[447] *See Ameritech Michigan Order*, 12 FCC Rcd at 20656 (requiring Commission satisfaction that performance measures submitted by the BOC actually measure performance in a manner that shows whether the BOC provides nondiscriminatory access to OSS functions).

[448] EnView was initially developed to monitor the internal TISOC systems response and availability times. *See* KPMG Final Report at POP8 IV-164. Bell Atlantic describes EnView as a "performance evaluation software tool that measures and records the actual response time of transactions through emulation by logging into applications and executing individual transactions." Bell Atlantic Dowell/Canny Decl. Attach. B at 6. In response to AT&T's criticism of the EnView system, Bell Atlantic notes that AT&T agreed in its interconnection agreement with Bell Atlantic to use the EnView system to measure pre-ordering response times. Bell Atlantic Dowell/Canny Reply Decl. at para. 12.

[449] The EnView system consists of two emulation programs, or "robots," one operating out of Manchester, New Hampshire and the other out of Andover, Massachusetts. The robots run pre-defined scripts requesting information as if the information were being requested from a competing carrier (which would be processed through the DCAS system) or from a Bell Atlantic retail representative (which would flow directly to back office systems). *See* KPMG Final Report at POP8 IV-164-165 (describing EnView system).

[450] Bell Atlantic Dowell/Canny Decl. Attach. B at 5.

[451] *See* Bell Atlantic Dowell/Canny Decl. at para. 24; Bell Atlantic Miller/Jordan/Zanfini Reply Decl. at para. 21; New York Commission Comments at 39; *see also NYPSC Permanent Rule Order*, App. at 3-4 (ordering Bell Atlantic to measure separately response times for each type of interface, and to begin reporting EDI interface response times immediately).

[452] The New York Commission agrees that Bell Atlantic's August data more accurately capture pre-order response time because Bell Atlantic started measuring the EDI interface and implemented other changes. The New York Commission also notes that additional refinements to the EnView pre-order measurement system are currently being considered in the Carrier-to-Carrier proceeding. New York Commission Comments at 39.